Title of Material: _____

Publisher: _____

Reviewer: _____

Percentage of Standards: _____

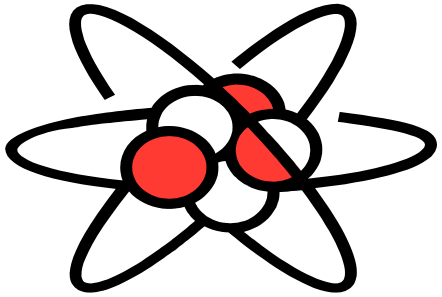
Grade Five--possible 49 (content knowledge & skills)
(Number of Yes checks divided by 49 = percentage)

Idaho Achievement Standards

Science

for

Grade Five



602 SCIENCE STANDARDS – GRADE 5, SECTIONS 603 THROUGH 613.

The samples associated with the content standards are meant to illustrate meaning and to represent possible areas of applications. They are not intended to be an exhaustive list, but are samples of applications that would demonstrate learning.

603 UNIFYING CONCEPTS OF SCIENCE.

Standard – The student will:	Content Knowledge and Skills:	YES	NO
01. Understand systems, order, and organization	a. Know that a system is an organized group of related objects that form a whole.	**Indicate Page No**	
	b. Describe the function of each human body system.	**Indicate Page No**	
02. Understand concepts and processes of evidence, models, and explanation.	a. Know that observations and data are evidence on which to base scientific explanations and predictions.	**Indicate Page No**	
	b. Know the difference between observations and inferences.	**Indicate Page No**	
	c. Use models to explain or demonstrate a concept.	**Indicate Page No**	
	d. Develop skills to create scientific explanations based on scientific knowledge, logic, and analysis.	**Indicate Page No.**	
03. Understand constancy, change, and measurement.	a. Recognize that some concepts in science do not change with time.	**Indicate Page No**	
	b. Analyze changes that occur in and among systems.	**Indicate Page No**	
	c. Measure using standard and metric systems with an emphasis on the metric system.	**Indicate Page No**	
04. Understand the theory that evolution is a process that relates to the gradual changes in the universe and of equilibrium as a physical state.	a. Understand the relationships of past, present, and future.	**Indicate Page No**	
05. Understand concepts of form and function.	a. Understand that the shape or form of an object or system is frequently related to its use or function.	**Indicate Page No**	

604 CONCEPTS OF SCIENTIFIC INQUIRY.

Standard – The student will:	Content Knowledge and Skills:	YES	NO
01. Understand scientific inquiry and develop critical thinking skills.	a. Develop questions that can be answered by conducting scientific experiments.	**Indicate Page No**	
	b. Conduct scientific investigations using controls and variables when appropriate.	**Indicate Page No**	
	c. Select and use appropriate tools and techniques to gather and display data.	**Indicate Page No**	
	d. Analyze data in order to develop descriptions, explanations, predictions, and models using evidence.	**Indicate Page No**	
	e. Develop a hypothesis based on observations.	**Indicate Page No**	
	f. Compare alternative explanations and predictions.	**Indicate Page No**	
	g. Communicate scientific procedures and explanations.	**Indicate Page No**	

605 CONCEPTS OF PHYSICAL SCIENCE

Standards - The student will:	Content Knowledge and Skills:	YES	NO
01. Understand the structure and function of matter and molecules and their interactions.	a. Explore and describe the differences among elements, compounds, and mixtures.	**Indicate Page No**	
	b. Explore and calculate properties of matter.	**Indicate Page No**	
	c. Compare differences among solids, liquids, and gases using the concept of density; explore the effect of temperature on density.	**Indicate Page No**	
	d. Understand the nature of physical change and how it relates to physical properties.	**Indicate Page No.**	

02. Understand chemical reactions.	a. Observe and know that substances react with each other to form new substances with different properties.	**Indicate Page No**	
03. Understand concepts of motion and forces.	a. Observe the effects of different forces (gravity and friction) on the movement, speed and direction of an object.	**Indicate Page No**	
	b. Investigate different forms of energy.	**Indicate Page No.**	

606 CELLULAR AND MOLECULAR CONCEPTS..

Standards - The student will:	Content Knowledge and Skills:	**YES**	**NO**
01. Understand the cell is the basis of form and function for all living things and how living things carry out their life functions.	a. Explore the different structural levels of which an organism is comprised: cells, tissues, organs, organ systems, and organisms.	**Indicate Page No**	
	b. Recognize the structural differences between plant and animal cells.	**Indicate Page No**	
	c. Explore the concept that traits are passed from parents to offspring.	**Indicate Page No**	

607. INTERDEPENDENCE OF ORGANIZMS AND BIOLOGICAL CHANGE.

Interdependence of Organisms and Biological Change standards do not apply at this grade level.

608. MATTER, ENERGY, AND ORGANIZATION IN LIVING SYSTEMS.

Standard – The student will:	Content Knowledge and Skills:	**YES**	**NO**
01. Understand the relationship between matter, energy, and organization to trace matter as it cycles and energy as it flows through living systems and between living systems and the environment.	a. Know that the energy for life is primarily derived from the sun through photosynthesis.	**Indicate Page No**	

609. EARTH AND SPACE SYSTEMS.

Standard – The student will:	Content Knowledge and Skills:	YES	NO
01. Understand scientific theories of origin and subsequent changes in the universe and earth systems.	a. Investigate the interactions between the solid earth, oceans, atmosphere, and organisms.	**Indicate Page No**	
	b. Know the water cycle and its relationship to weather and climate.	**Indicate Page No**	
	c. Identify cumulus, cirrus, and stratus clouds and their relationship to weather changes.	**Indicate Page No**	
	d. Know that fossils are evidence of past life forms.	**Indicate Page No.**	
02. Understand geo-chemical cycles and energy in the earth system.	a. Know the rock cycle and identify the three classifications of rocks.	**Indicate Page No.**	
	b. Know the layers and composition of the earth.	**Indicate Page No.**	

610. TECHNOLOGY.

Standard – The student will:	Content Knowledge and Skills:	YES	NO
01. Understand the relationship between science and technology and develop the abilities of technological design and application.	a. Know that science and technology are human endeavors interrelated to each other, to society, and to the work place.	**Indicate Page No**	
	b. Compare scientific inquiry and technological design in terms of activities, results, and influences on individuals and society; know that science enables technology and vice versa.	**Indicate Page No**	
	c. Create a tool to perform a specific function.	**Indicate Page No**	
	d. Use available and appropriate technology.	**Indicate Page No.**	
	e. Explore the elements of technological design, which include the following: -Identify a problem; -Propose a solution; -Implement a proposed solution; -Evaluate the solution and its consequences; -Communicate the problem, process, and solution.	**Indicate Page No.**	

611. PERSONAL AND SOCIAL PERSPECTIVES.

Standard – The student will:	Content Knowledge and Skills:	YES	NO
01. Understand common environmental quality issues, both natural and human induced.	a. Identify issues for environmental studies.	**Indicate Page No**	
02. Understand the causes and effects of population change.	a. Understand the effect of technological development and human population growth on the United States and/or the world	**Indicate Page No**	
03. Understand the importance of natural resources and the need to manage and conserve them.	a. Understand the differences between renewable and nonrenewable resources.	**Indicate Page No**	
	b. Understand the conservation of natural resources.	**Indicate Page No**	

04. Understand different uses of technology in science and how they affect our standard of living.	a. Identify examples of technologies used in scientific fields: -Food production; -Environmental cleanup; -Advances in medicine; -Communications; -The space program; -Weather forecasting.	**Indicate Page No**	

612. HISTORY OF SCIENCE

Standard – The student will:	Content Knowledge and Skills:	**YES**	**NO**
01. Understand the significance of major scientific milestones.	a. Understand major contributions of various scientist and researchers.	**Indicate Page No**	

613. INTERDISCIPLINARY CONCEPTS.

Standard – The student will:	Content Knowledge and Skills:	**YES**	**NO**
01. Understand that interpersonal relationships are important in scientific endeavors.	a. Work in teams to solve problems.	**Indicate Page No**	
02. Understand technical communication.	a. Read, understand, and follow technical instructions.	**Indicate Page No**	
	b. Write a lab report	**Indicate Page No.**	